National Aeronautics and
Space Administration

Washington, D.C
20546

Reply to Attn of NIG-3

APR 7 1981

Mr. Alan McMillan
U.S. Department of Labor
Occupational Safety and Health Administration
Office of Federal Agency Safety
and Health Programs
200 Constitution Avenue, N.W.
Washington, D.C. 20210

Dear Mr. McMillan:

The NASA response to the January 13, 1981, letter from the Honorable Ray Marshall to Dr. Frosch requesting the 1980 annual report on our Occupational Safety and Health Program is enclosed. Two copies of the summary of our report and the summary of our self-evaluation findings are included; one copy of each is included in the report and an additional copy separate from the report so it can be detached if desired.

The NASA Safety Program was effective during 1980. Seven of our installations decreased the total number of injuries/illnesses reported. Four installations reported more injuries/illness, and one remained at zero. The agency total decreased three percent from 339 cases to 329 with a frequency rate of 1.48 per 200,000 hours worked. In the lost workday (lost time) injury/illness category, there were five installations with decreases while five showed increases, and two remained at zero. The agency rate decreased three percent from 0.69 to 0.67. The Marshall Space Flight Center with 3,615 employees decreased their rate from 0.42 in 1979 to 0.09 in 1980.

NASA is committed to comply with the goals of the Occupational Safety and Health Act. The Acting Administrator has issued a policy letter fully supporting Executive Order 12196 and the new program elements of 29 CFR 1960, and our safety and health instructions are being revised to reflect the new requirements. A strong occupational safety and health program exists within NASA, and it is continually being improved.

Questions concerning this report should be directed to Thomas B. Kerr, NASA Safety Office (Code NIG-3), phone 755-2751.

Sincerely,

Frank E. Penaranda
Director, Institutional
Operations Division

Enclosures

NATIONAL AERONAUTICS

AND

SPACE ADMINISTRATION

ANNUAL REPORT

ON

OCCUPATIONAL SAFETY AND HEALTH

TO THE

SECRETARY OF LABOR

FOR

CY 1980

REFERENCE:

1. Public Law 91-596 "Occupational Safety and Health Act of 1970" (Section 19)
2. Executive Order 12196 "Occupational Safety and Health Programs for Federal Employees" (February 1980)
3. 29 CFR Part 1960, "Safety and Health Provisions for Federal Employees"

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SUMMARY

National Aeronautics and Space Administration report to the Department of Labor on the Occupational Safety and Health Program for CY 1980

GOALS AND OBJECTIVES

The basic NASA goals and objectives, insofar as the occupational safety and health requirements are concerned, are to avoid injury and death of personnel, protect property and the environment, involve employees and management in the program through extensive use of committees, training activities, and programs of hazard recognition and reporting, and comply with the Executive Order and guidelines that are provided to us.

COMMITTEES

NASA uses safety and health committees at several management levels. Employees have access to and can be represented on the committees; although NASA has not used the OSHA approved committees with 50% of the members being representatives of employees. The committees have provided excellent support and safety input.

BIENNIAL SURVEYS

The NASA Headquarters Safety, Occupational Health, Program Assurance, and Reliability and Quality offices work in harmony to provide at least biennial surveys of the NASA installations. On the off years, the survey responsibility rests with the installations' managements, and they, in turn, use the functional offices and committees to accomplish these surveys. This program is very effective, and we plan to continue with it.

INDEPENDENT SURVEY

To further evaluate the status of the NASA safety and health programs and to determine the overall compliance status of the NASA installations, the JRB Company was contracted with to conduct OSHA-type surveys at each installation. Their reports include each noncompliance item, pertinent standards, seriousness of the noncompliance, and estimate of cost to abate. This effort will be completed during 1981, and it will provide an overall, agency estimate of costs to bring our facilities to an acceptable compliance level.

SPECIALIZED TRAINING

There are many activities in the NASA installations and programs which require special precautions. As a result of these activities, NASA has developed and/or contracted for training courses and programs for employees and contractor employees who are associated with the activities. These

training courses and programs have helped keep our injury/illness history at a very low rate. It is also an area which resulted in special recognition during the 1976-1977 NASA Program Evaluation by the Department of Labor.

TOP MANAGEMENT INTEREST

During 1980, NASA top management continued their interest in the safety and health program. The NASA Safety Office and the Occupational Health Office are fully staffed with qualified safety and health specialists. Emphasis on the Executive Order, 29 CFR 1960, NASA policy documents, and employee participation and observance of safe working practices has been reemphasized. The program is effective, personnel are interested, and the statistical indicators show success.

PROGRAM SUCCESS

The injury/illness lost workday (lost time) frequency rate was reduced from a high of 0.82 per 200,000 hours worked in 1977 to 0.81 in 1978, 0.69 in 1979, and 0.67 in 1980. The severity rate was 12.1 days per 200,000 hours worked in 1977, and it was reduced to 7.5 in 1980.

The Marshall Space Flight Center with 3,615 employees had a lost workday frequency rate of 0.09 and a total injury/illness rate of 0.48. The total frequency rate for NASA was 1.48 in 1980.

CONCLUSIONS

The NASA program is very successful. We plan to continue with our supporting activities adding those items which appear to have a reasonable probability of improving our safety. We have incorporated Executive Order 12196, 29 CFR 1960, and other guidelines and recommendations.

Further, if we can be of assistance to others with less successful programs, we will be happy to provide documentation, explanations of the program and our operations, and other information related to our employee involvement.

SELF EVALUATION

NASA regularly conducts internal evaluations of its Safety and Health Programs. Part I describes the Occupational Safety Evaluations and Part II describes the Occupational Health Evaluations.

Part I: Occupational Safety Surveys

During CY 80, a team from Headquarters conducted safety surveys of these programs at the following field installations:

1. Marshall Space Flight Center, Huntsville, AL.
2. Dryden Flight Research Center, Edwards, CA.
3. Jet Propulsion Laboratory, Pasadena, CA.
4. Goddard Space Flight Center, Greenbelt, MD.
5. Lewis Research Center, Cleveland, OH.

A brief synopsis from the summary of each follows:

1. Marshall Space Flight Center (MSFC) - January, 1980

   MSFC maintains low injury/illness frequency rates (0.66 for total and .42 for lost-time). No major and only a few minor safety problems were found. The Safety Office is well staffed and the program is well run.

2. Dryden Flight Research Center (DFRC) - July, 1980

   Since the previous safety survey, the accident frequency and severity rates at DFRC have increased. These rates peaked in CY 78; however, they began a decline in CY 79 and a review of the first and second quarter CY 80 statistics show a continuing decline. DFRC management intends to continue a strong focus on this issue to further reduce those rates.

3. Jet Propulsion Laboratory (JPL) - July, 1980

   NOTE: The Jet Propulsion Laboratory is a government-owned contractor-operated (GOCO) facility, operated for NASA by Caltech. NASA employees number less than 30. No safety problems of any significance were detected during this evaluation.

4. Goddard Space Flight Center (GSFC) - September, 1980

   Efforts undertaken in the past two years by the Health and Safety Engineering Office have resulted in significant reductions in the rate of occupational injuries and illnesses. The control and coordination of compensation claims needs improvement. Some additional safety training efforts are required.

5. Lewis Research Center (LeRC) - December, 1980

The Safety program evaluation was oriented toward an appraisal of the effectiveness of the safety program, and the adequacy of and compliance with existing safety policies. The LeRC safety program is organized along a committee approach with an Executive Safety Board providing overall guidance and the Lewis Safety Officer responsible for management of the program. It has the advantage of involving first-hand many management/supervisory level employees in the safety program and makes excellent use of available technical expertise to assist in the resolution of safety problems. Modifications are being made in the program to improve emphasis on achievement of accident prevention objectives, to place more emphasis on causation analysis and countermeasures, and to reduce time frames for correction of identified deficiencies.

Field installations conduct internal self-evaluations of their Safety and Health programs during years when Headquarters does not. These efforts are reviewed by Headquarters and prove useful in keeping safety a visible program at those installations.

1. Occupational Health On-Site Inspections

The latest round of on-site Occupational Health inspections during CY 1980 confirmed that all our field installations have well run, aggressive programs in the medical as well as the environmental health areas. The medical monitoring requirements of the OSHA Health Standards are followed and the NIOSH criteria documents are used as guidelines

More specifically, in the occupational medicine area, the programs were fully staffed, equipped, and were performing in an outstanding manner. The exercise facility program at each center is coming along according to schedule. The clinic at Dryden was recommended to be moved from trailers to a permanent building and the trailers turned over to the Houston medical team for the astronauts in preparation for the Shuttle landings there. This has been accomplished and the necessary emergency plans have been placed into effect. High Blood Pressure Screenings were conducted by all centers in conjunction with the NIH program in May and influenza vaccine was made available to all employees in August and September 1980. A concerted drive was made with the physicians to hold down COP, with light duty where indicated and appropriate. The new Hearing Conservation program was discussed at all sites and NASA is adopting the DoD level of 85dBA (now adopted by OSHA). The Directive will be issued in March 1981. The physicians are working closely with the safety officers and have frequent walk-through inspections with the Industrial Hygienists. The Narcotic Inventory and Malpractice coverage were reviewed and were satisfactory.

Emergency equipment was in good order and periodically inventoried as required. The x-ray equipment and radiation monitoring were in order and all exposure levels were below limits. Chest x-rays were given only on physician's orders in keeping with Presidential Directive to curtail radiation exposure from screening programs. They are given only for diagnostic purposes or as required by OSHA. The Employee Assistance Program under OPM has been very active at all sites with a large number of self-referrals. In summary, the centers' programs are judged to be excellent.

2. Environmental Health On-Site Inspections

The environmental health programs reviewed during CY 1980 include:

Marshall Space Flight Center - The program was found to continue to be a good one and was quite responsive to the needs of the center. Environmental health and occupational medicine programs were very well coordinated. Several commendable improvements had been made since the last visit. An excellent respirator program had been developed and there was more involvement in the planning stages of projects and in other preventive efforts.

5. Lewis Research Center (LeRC) - December, 1980

The Safety program evaluation was oriented toward an appraisal of the effectiveness of the safety program, and the adequacy of and compliance with existing safety policies. The LeRC safety program is organized along a committee approach with an Executive Safety Board providing overall guidance and the Lewis Safety Officer responsible for management of the program. It has the advantage of involving first-hand many management/supervisory level employees in the safety program and makes excellent use of available technical expertise to assist in the resolution of safety problems. Modifications are being made in the program to improve emphasis on achievement of accident prevention objectives, to place more emphasis on causation analysis and countermeasures, and to reduce time frames for correction of identified deficiencies.

Field installations conduct internal self-evaluations of their Safety and Health programs during years when Headquarters does not. These efforts are reviewed by Headquarters and prove useful in keeping safety a visible program at those installations.

Wallops Flight Center - It was very encouraging to find that the center had been effectively utilizing industrial hygiene support from Langley Research Center. This support is to continue and will be provided on a periodic and on an as-needed basis. The center had adequately addressed most on-site potential health problems; however, a few areas needed some additional attention. They are now being addressed by the center.

Jet Propulsion Laboratory - Management awareness and visibility in the environmental health areas were found to be excellent. The program was found to be very effective. Personnel were quite dedicated in carrying out their responsibilities. Extensive training had been provided to laboratory personnel on the handling and use of hazardous chemicals and an effective hazardous chemical cleanup and disposal campaign was on-going. A few minor program improvements were recommended. They have all been accomplished.

No significant environmental health problems or deficiencies were found at any of the remaining centers reviewed. In summary, NASA environmental health and occupational medicine programs were found to be coordinated as is necessary for the identification and control of occupational illnesses.

OCCUPATIONAL SAFETY AND HEALTH ANNUAL REPORT - CY 1980

GENERAL

The National Aeronautics and Space Administration (NASA) conducts agencywide safety and health programs. Policies and overall program guidance are established and levied upon the operating organizations at Headquarters and at the field level. There are eleven major and four subordinate installations plus numerous tracking stations, experimental operations stations, and other facilities located throughout the world. Major organizational elements of the agency are shown in Figure 1. Figure 2 shows the organizational elements of the Office of Management Operations and Figure 3 shows the organization of the Institutional Operations Division where the Safety Office and the Occupational Health Office are located. Attachments 1-8 (Attachments to incoming guidelines) contain requested information for the agency and field installations.

The Directors and Managers of NASA installations exercise a high degree of autonomy in the operation of their organizations. Safety and health elements exist in each of these installations and at subordinate installations. Consequently, considerable autonomy is exercised by the safety and health organizations of the installations as they follow Headquarters policies and guidelines.

This report will include a general summary of the total program followed by the individual responses of each installation to the guidelines issued by the Department of Labor. (See Attachments 9-19.)

The Institutional Operations Director, Mr. Frank Penaranda, who reports to the Agency Designated Safety and Health Official, Mr. E. C. Kilgore, is responsible for the overall Occupational Safety and Occupational Health programs. The NASA designee for Safety coordination and liaison with OSHA is:

Mr. J. Larry Crawford
Chief, NASA Safety Office (NIG-3)
NASA Headquarters
Washington, D. C. 20546
(202) 755-2751

Dr. Walton L. Jones, Chief, Occupational Health Office, is the NASA coordinator for Health activities. He also reports to the Director, Institutional Operations, and is responsible for medical and environmental health activities, including examination and recordkeeping requirements of OSHA Health Standards.

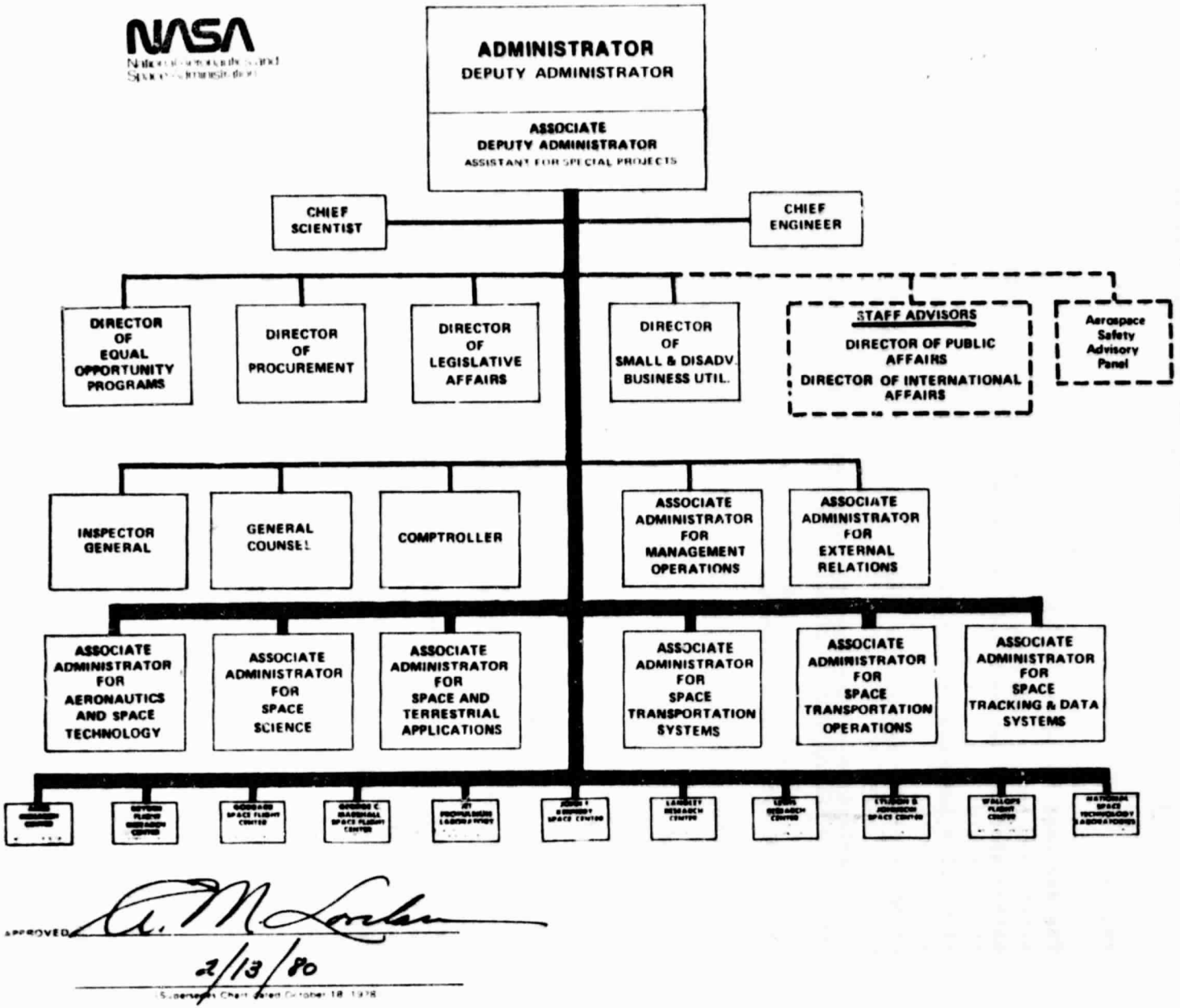
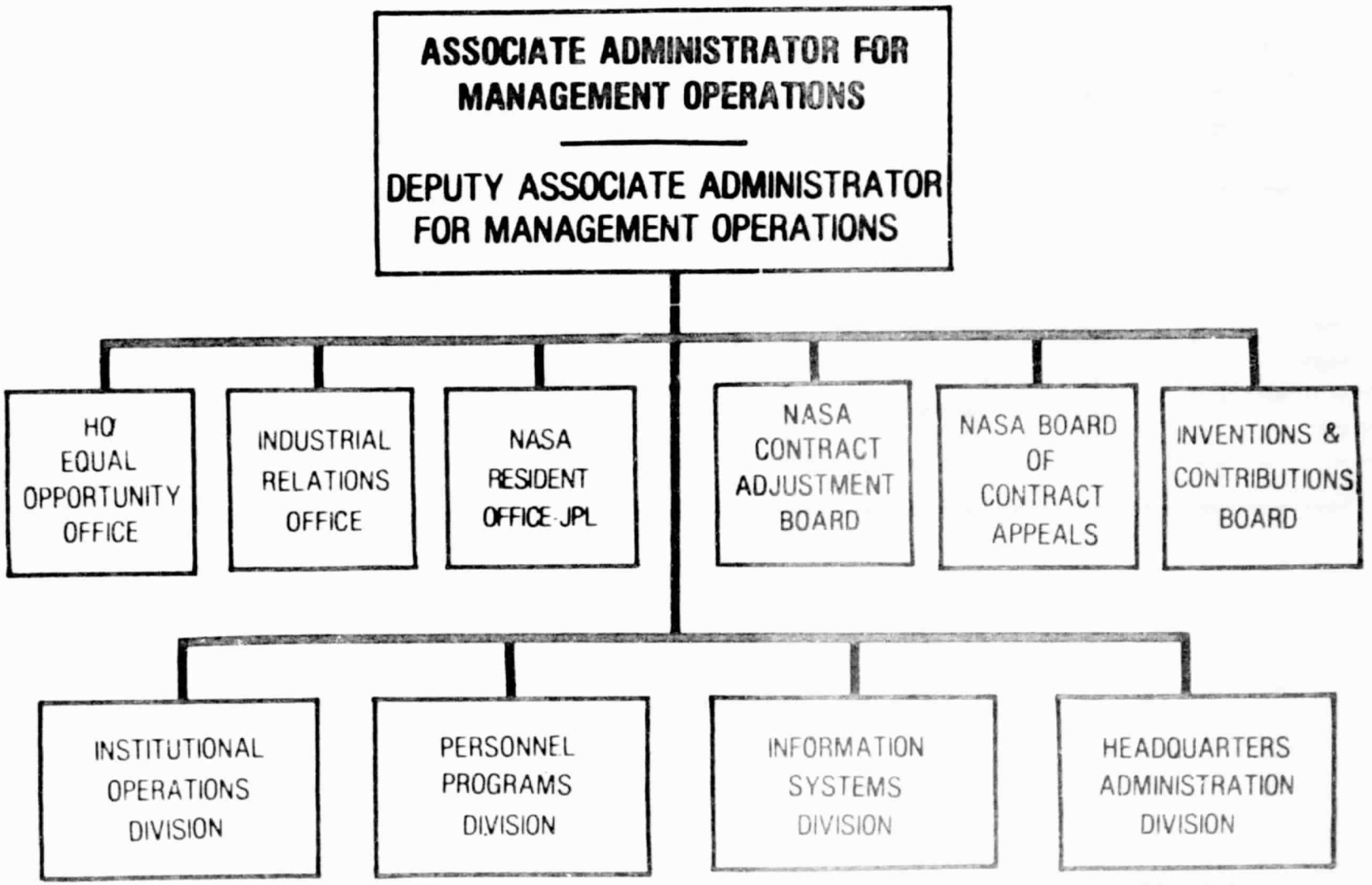


FIGURE 1

2

OFFICE OF MANAGEMENT OPERATIONS



APPROVED A. M. Lovelace

EFFECTIVE 8/18/80

FIGURE 2

3

NASA HQ 878-3917 (1)

OFFICE OF MANAGEMENT OPERATIONS

INSTITUTIONAL OPERATIONS DIVISION

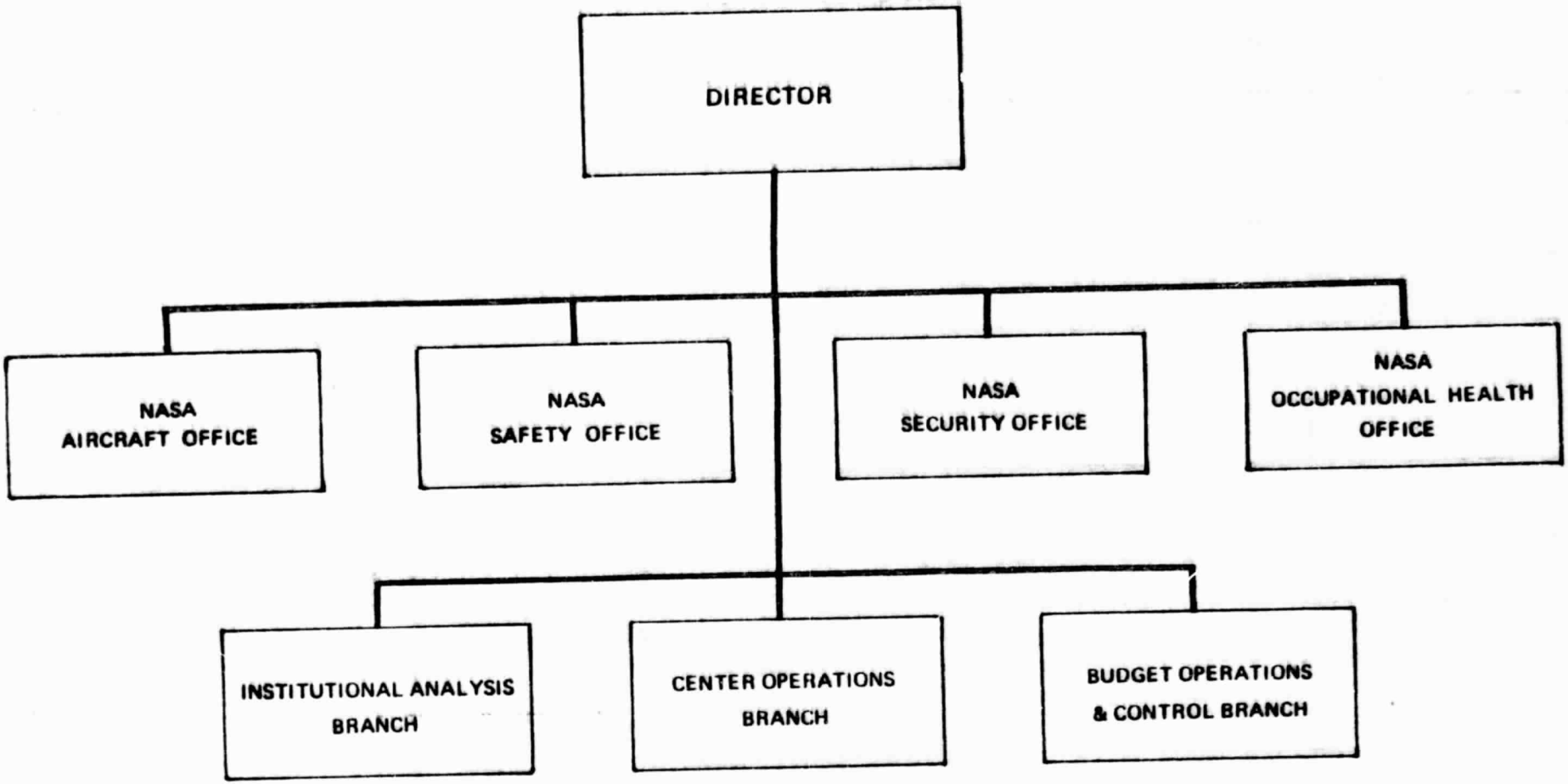


FIGURE 3

Approved: E. J. Ezgoni

Date: January 14, 1980

Within each Installation, the Occupational Safety, Environmental Health, and Occupational Health functions are assigned to the appropriate organizational location for their particular operation. From a functional point of view, on a day-by-day operational basis, these organizations respond directly to the requirements of the Safety and Occupational Health Offices.

1. EMPLOYEE INVOLVEMENT

Employee participation and involvement in the Field Installation and Headquarters Safety and Health Programs is maintained by promotion in staff meetings, training, distribution of safety and health materials, etc. Inspections/surveys are conducted by professional safety and health personnel, selected specialists, and by supervisors.

Our Safety and Health Offices have excellent rapport with employees and union representatives. When questions and/or problems related to safety and health arise, they are normally handled quickly, informally, and often by telephone. Safety and Health related committees are operational in nature, some have employee representatives as members, and all are accessible to any employee who has a question or recommendation for consideration in the jurisdiction of the particular committee.

Employees are encouraged to report safety and health problems or, for that matter, any problem they recognize without fear of reprisal. If they are not satisfied with the resolution, they can report the item to the next level of management, NASA Safety and Occupational Health officials, or to the Department of Labor. Management instructions and other policy documents on file with DOL emphasize these rights. NASA does not have an adversary relationship with the employees or their representatives in safety related matters.

Bulletin boards display copies of the official notices published by the Department of Labor. Employee access to information related to compliance with the Ocucupational Safety and Health Act, Executive Order 12196, and 29 CFR 1960 is through the Safety/Health offices or line organzations.

Employees actively participate in the Federal Safety and Health Councils by attending Field Council meetings and Annual Federal Safety Council meetings. A number of the full-time professional staff members are active members and, in some instances, hold offices in the local chapters of the Federal Safety and Health Councils.

At the Agency (NASA-wide) level, NASA has the Operations and Engineering Panel reporting to the Chief Engineer. One of the responsibilities of this panel is the overview of safety/health related items, and when requested, it looks at specific or general areas of concern at installations; specialists are available from any location within the agency.

The NASA policy on safety and health mandates occupational safety and health committees and makes provisions for inclusion of employee representatives. At installations, management level committees supervise the overall safety/health-related operations. In addition, committtees are designated as needs are recognized and include the following:

Aviation Safety
Ionizing Radiation
Non-ionizing Radiation
Potentially Hazardous Materials
(Pyrotechnic Support Engineers)
Pressure Systems
(Standard Practice Engineers)
Electrical Systems
Systems Operations
Vehicle Traffic
Fire Safety
Environmental Pollution

Furthermore, NASA safety and health instructions are routinely coordinated with the major national unions involved in NASA operations.

2. EXECUTIVE SUPPORT AND DUTIES

POLICY

The safety and health policy is contained in NASA Management Issuance NMI 1701.1, June 26, 1978; NASA Safety Manual, NHB 1700.1(V1), July 1969; NASA Occupational Medicine Program, NMI 1800.1, September 27, 1979; Occupational Safety and Health Program, NHB 1700.1(V10), January 1979; NASA Safety and Health Standards; and other supporting documents which were previously submitted to the Department of Labor (OSHA). (NASA safety and health policy documents are being updated to reflect the most recent changes in OSHA, the Executive Order, and NASA activities.)

The following paragraphs are taken from NMI 1701.1 to summarize NASA safety and health policy:

"5. BASIC POLICY

It is NASA policy to:

a. Take all necessary steps to avoid loss of life, injury or illness of personnel, property loss or damage, or environmental harm to the extent practical.

b. Comply with the applicable provisions of the Occupational Safety and Health Act of 1970, Executive Order 11807 (new Executive Order is 12196), 29 CFR 1960, and published OSHA and NASA standards. Requirements of other applicable

Federal regulatory agencies shall also be complied with. In the event of conflicting standards or regulatory issuances, the more stringent requirements shall be met.

"7. EMPLOYEE RESPONSIBILITIES AND RIGHTS

a. All employees are expected to comply with NASA Safety and Environmental Health standards, guidelines, regulations, and other actions designed to conserve the environment and provide a safe and healthful workplace.

b. Employees may exercise, with full assurance of protection from interference, coercion, reprisal, discrimination, or restraint, their right to:

(1) Obtain or have access to copies of NASA standards, injury and illness statistics....

(2) Comment on standards the agency proposes and thus assist the agency in issuing adequate standards.

(3) Participate, through representatives, and assist in safety and environmental health inspections....

(4) Report unsafe or unhealthful working conditions and request inspections of such conditions by giving a written signed notice to their supervisors, or to safety and health officials....

(5) Submit complaints or grievances through established agency procedures or those contained in negotiated agreements with recognized labor orgnizations...."

Also, the NASA Acting Administrator issued a policy letter January 28, 1981, supporting the provisions of Executive Order 12196 and the new 29 CFR1960 and committing NASA to the establishment and maintenance of a strong occupational safety and health program.

Further, it is NASA policy to comply with the OSHAct, the Executive Order, the DOL Safety and Health Provisions for Federal Employees, and the published OSHA standards insofar as they are applicable to NASA facilities, equipment, and operations. Where OSHA standards do not apply or are not sufficient, NASA adopts standards that will provide equal or more stringent requirements for employees and contractor personnel. These standards have been and will continue to be sent to DOL for their consideration and adoption, if appropriate.

NASA management continues to have personal interest and involvement in the safety and health of employees. Training funds are provided, staffing has been increased in some installations, some Center Directors require detailed individual reports of injuries and illnesses, and safety

and health requirements have been discussed in memos and meetings at the Administrator or Associate Administrator and Installation Director levels. The NASA lost-time or lost workday injury/illness frequency rate has decreased from a high of 0.82 in 1977 to 0.67 in 1980. At one large center (MSFC with 3,615 employees), the 1980 rate was 0.09, and the employees agressively support the program. The total NASA injury/illness rate was 1.48 in 1980.

FUNDING

Funding for safety and health related activities is not carried in a single line item at the Field Installations or for the agency. Many modifications and compliance items are accomplished with routine work orders using regular maintenance funds. Further, since safety and health are line responsibilities, budgeting for them is included in normal project costs as part of the overall cost. However, Attachment 2 shows the expenditures ($16,165,550) directly associated with safety and health activities, which we have been able to determine, within the agency for CY 1980.

In the past no attempt has been made to distinguish safety and health related costs of projects. However, the 1982 budget call included a special exhibit for safety and health for the purpose of obtaining a separate breakout of the items listed in 29 CFR 1960.7 (c) and other special safety/health items. A NASA Safety and Health Hazard Abatement Plan (NASA Form 1584, March 1981) has also been developed and will require the inclusion of funding informtion. Plans are to incorporate this data in our upcoming, automated, management information system and use it as a basis for our safety and health funding requests and allocations.

SAFETY PROGRAM AND ORGANIZATION

The NASA Safety Program encompasses the various functions involved in space, aeronautics, systems, occupational, fire, operations, public, nuclear, and industrial safety. Extensive efforts are underway to meet and support the requirements of the Occupational Safety and Health Act (OSHA). This has led to an increasing involvement of other functional areas (e.g., budget, training) in addition to safety. This will continue to be our method of operation.

Within NASA, we maintain the policy that primary responsibility for the safety and health of personnel, preservation of property and resources, and prevention of accidents which could jeopardize mission success rests with the same management charged with program success. Where we speak of the NASA Safety and Health Program, therefore, we are speaking of all actions required throughout the organization to meet this responsibility. The actions and decisions which are required to achieve effective safety are virtually inseparable from program planning, management, and directions, and the steps necessary to achieve safety

of operations begin with initial planning and research and extend through every facet of NASA's activities.

Within this policy, the Chief, NASA Safety Office, exercises functional management authority and responsibility over NASA safety activities. He provides policy and technical guidance, develops and issues standards and procedures, reviews and evaluates activities for conformance with prescribed policies, standards, and procedures, and recommends necessary corrective action. He is the focal point for coordination of agency safety activities, and he provides information and recommendations to the Administrator and other appropriate officials, through the Director, Institutional Operations, on the status of significant actions, problems, and other substantive matters related to these assigned responsibilities.

The Director of Program assurance, through the authority of the Chief Engineer, is responsible for reviewing and concurring in the safety portion of project plans and project approval documents. He is also responsible for establishing policy and guidance and developing training programs and models for program and project system safety. He is responsible for conducting surveys to assure proper implementation of policy. In addition, he is responsible for developing policy for integrating the reliability, quality, and risk management efforts needed to assure minimum safety risks. His responsibilities encompass activities and hardware associated with projects and programs, and although not directly responsible, he is concerned with the real estate, fixed facilities, and personnel that support these activities.

In the Offices of Space Transportation Systems, Space Transportation Operations, Space Science, Space Tracking and Data Systems, and Space and Terrestial Applications, there are Reliability, Quality Assurance, and Safety personnel supporting the Space Programs. These individuals are part of the overall safety capability in the agency, and although most of them report through a different management chain, they have the welfare of personnel, facilities, and programs foremost in their minds.

Personnel of the Offices of Program Assurance; Space Flight Reliability, Quality, and Safety; Occupational Health; and NASA Safety coordinate their efforts to support each other and provide greater coverage for the agency.

The Aerospace Safety Advisory Panel (ASAP) was established by separate and direct actions of the Contress and:

> "The Panel shall review safety studies and operations plans referred to it and shall make reports thereon, shall advise the Administrator with respect to the hazards of proposed operations and with respect to the adequacy of proposed or existing safety standards, and shall perform such other duties as the Administrator may request." (NMI 1156.14E, April 27, 1980, "Aerospace Safety Advisory Panel")

Thus, the ASAP is a separate and distinct entity from the NASA Safety Office and the Program Assurance Division and, in fact, reviews, evaluates, and advises the Administrator concerning these offices. Membership of the ASAP consists of a maximum of nine members with not more than four of these members employed by NASA. The ASAP meets as often as necessary, but at least twice a year, and reports directly to the NASA Administrator.

All managers throughout the agency are responsible for identifying risks, hazards, or unsafe situations and practices and for taking steps to assure safety in the activities under their supervision. The roles of the Associate Administrators and Field Installation Directors are critical in this framework, since these officials have primary "action" authority within the agency. Each of these managers is responsible for developing and implementing a safety program to meet local needs as well as OSHA requirements and which is consistent with general requirements and policies of NASA. It is necessary for these managers to review and monitor the safety programs at the installations and in contractor plants. They cooperate with the Chief, NASA Safety Office, the Director, Assurance Division, the Aerospace Safety Advisory Panel, the Chief, Occupational Health Office, and others in the conduct of safety evaluations, reviews, and investigations and in developing necessary safety data.

Surveys are conducted, often jointly, by the Safety and Occupational Health Offices, Program Assurance Division, and Space Flight Reliability, Quality, and Safety using professional teams comprised of Headquarters and field installation specialists to audit, communicate, and educate. They assess conditions which exist, exchange ideas and expertise regarding procedures, techniques, concepts, and practices, provide standardization for operations throughout NASA, cross-fertilize new or innovative ideas, assess effectiveness of local management implementation of NASA safety policy, and determine the effectiveness, validity, and adequacy of standards/directives. It is NASA policy to conduct independent, biennial safety and health evaluations of all field installations.

Individual NASA field installations emphasize specific safety elements on a local basis. To assure appropriate inclusion of safety and health requirements in engineering designs and modifications, safety personnel review and approve drawings and specifications for minor and major construction, alterations and repairs, and other safety-related work orders. They participate in planning and design reviews, and they review completed designs. Procurements are reviewed in the same manner. Major projects, including flight projects, are reviewed from the study phase through the execution phase.

NASA HEALTH PROTECTION PROGRAM (Includes Environmental Health)

A comprehensive employee health protection program is conducted at NASA field installations and at NASA Headquarters, under the direction of the Chief, Occupational Health Office. Medical, industrial hygiene, and health physics personnel work together to ensure correlation and maximum effectiveness. The environmental health portion of the NASA health conservation effort emphasizes preventive activities. Some of the pertinent program-related activities include:

Evaluating any factor in the environment which can be deleterious to the health of personnel.

Working closely with medical personnel and apprising them of specific exposures and working conditions applicable to an employee or any group of employees.

Recommending personnel to be given occupational physical examinations.

Investigating alleged occupational illnesses, inspecting workplaces and working conditions, measuring exposures to potential health hazards, and recommending measures to effectively control exposures to health hazards.

Implementing requirements of OSHA health standards.

Reviewing engineering drawings, purchase requests, work orders, contracts, etc., to ensure that appropriate attention is given to health protection.

Evaluating the effectiveness of control measures.

Approving use of pesticides.

Analysing collected samples.

Participating in planning activities.

NASA policy regarding employee health protection is contained in NASA Issuance, NMI 1800.1C, "NASA Occupational Medicine Program," September 27, 1979. This directive contains the following program goal:

"The goals of the Occupational Medicine Program are to minimize: sick absence, reduced productivity due to marginal physical disability, permanent disability, and premature death. The program is concerned with the maintenance of the health of the employees, the detection and correction of early or subtle changes, and the early determination of trends toward an abnormal health state.... The Program's objective is to document the health baseline of individual employees and to monitor that status periodically so that early changes can be detected and appropriate treatment started before irreparable harm has occurred."

Each installation director issues directives, standards, handbooks, and manuals as needed to implement this basic policy. These issuances are distributed to management and supervisory personnel and are made available to all employees.

3. SAFETY AND HEALTH HEADQUARTERS AND FIELD STAFF AND FUNCTIONS

Attachments 3, 4, 5, and 6 contain this information.

4. OPERATING MANAGEMENT AND SUPERVISORY DUTIES

Management's responsibilities are explained in training sessions, management meetings, and during surveys and attendant briefings. The enclosed individual installation reports explain the various levels of activity at each installation. At the agency level, the requirements and responsibilities are being emphasized with agency-wide training courses, management directives, and closely coordinated policies and activities at all management levels.

Existing NASA directives require direct involvement of both senior management and supervisors in the safety and health programs. Senior level occupational safety and health committees, involving supervisors, are used extensively throughout NASA. NHB 1700.1(V10), Safety Manual, "Occupational Safety and Health Program," lists specific functions for various levels of management.

5. SAFETY AND HEALTH STANDARDS ADOPTION

NASA policy requires compliance with OSHA as well as other pertinent Standards. In addition to the basic Standards, we use other guides and references including:

OSHA Reference Materials
Department of Transportation Standards
ICC Standards
NFPA Codes
National Safety Council Documents
ANSI Reference Library
DOL/DOD Safety Data Sheets
Health and Industrial Hygiene Documents
Agency and Installation Safety Manuals
NASA Standards
Installation Developed Standards for Special Local Conditions
NCI and NIOSH Alerts
ACGIH TLV's
NIOSH Criteria Documents
NCI Bioassay Reports for Carcinogenicity
CPSC Bulletins and Alerts

When a NASA Standard is proposed, it is reviewed by a committee or group. It is rewritten, as necessary, then submitted to the installations for review. (If it is a local standard, it is submitted to local divisions and offices, as appropriate, for review.) After the proposed standard is reviewed and comments returned to the originator, the standard is again modified to include improvements recommended during the review. The standard is prepared in final format and submitted to the approving official for signature and publication.

Standards receive extensive distribution and are available to employees at the libraries, safety offices, division offices, on request from document distribution offices for individual use, or at any location where copies are maintained. Standards are also found in workplaces where they relate to specific work processes or potential hazards. The major safety standards developed by NASA to date, dealing with pressure vessels/systems, were coordinated with DOL several years ago.

To meet the new approval requirements for alternate standards by the DOL, Volume 10 of the NASA Safety Manual is being revised as follows:

NASA will comply with safety and health standards promulgated under Section 6 of the Act, except where alternate standards have been approved. When field installations intend to apply more stringent standards (e.g., lower permissible exposure limits), the safety or health official will notify the NASA Safety Office in writing of the details of such standard(s) and the associated operation or procedure.

Field installations may apply alternate safety and health standards, either NASA safety and health standards or standards limited to their own installation, provided such standards are approved. The NASA Safety Office will serve as the Headquarters Coordinator for review and approval of alternate standards and will prepare necessary material for interagency review with the Department of Labor.

In developing and submitting alternate standards, field installations shall provide the following information:

a. A statement of why the field installation cannot comply with the OSHA standard or wants to adopt an alternate standard.

b. The proposed alternate standard.

c. An explanation of how the alternate standard provides equivalent or greater protection for the affected employees.

d. A description of interim protective measures employed pending approval of the standard.

e. A summary of written comments, if any, from interested employees or the installation's safety and health committee.

6. SAFETY AND HEALTH TRAINING ACTIVITIES

Training available to employees is extensive. Much in-house training is conducted as part of regular staff meetings and orientation related to new tasks and is not listed as separate safety training. The 1976/1977 OSHA Program Evaluation of NASA, commended the specialized training provided to our employees.

The training conducted during 1980 is listed in the individual installation reports. However, the training reported by the installations averaged approximately 5.8 hours per employee. The training was listed as follows: Employees 120,246 hours, Supervisors 5,436 hours, Employee Representatives 1,097 hours, Management 1,506 hours, Collateral Duty 3,433 hours, and Full Time Professionals 3,779 hours. Some of the training listed for employees includes the other groups, since attendance at training for large groups is often indicated by number of individuals, and it does not designate groups or names of individuals.

Many NASA activities are unique or at least not routine; therefore, it is important for operations personnel and management to assure that adequate training is provided. This requires specialized courses, careful control to assure participation, and careful control of operations. Our potentially most hazardous operations are normally the safest because rigid controls are established and enforced.

In an attempt to provide up-to-date, general training for NASA personnel, we have requested information concerning training available through the Department of Labor, Office of Federal Programs.

In addition to the above, the following actions are underway to further improve our training:

a. Priorities are currently being established for safety and health specialists training, and alternative means for providing the training are being explored.

b. Action has been initiated to develop packaged courses for distribution to field installations to meet the requirements of the new 29 CFR 1960.54 thru 1960.59.

7. INSPECTION AND HAZARD ABATEMENT PROCEDURES

Safety and health inspections are conducted on a periodic basis by Safety and Health personnel. Inspections at the local level are normally unannounced except for the formal surveys and special circumstances. Special investigations may be initiated at the request of safety committees, the Director, medical personnel, or in response to reports of unsafe or unhealthful conditions. Followup inspections are made to determine that corrective action has been taken to eliminate hazards.

As indicated earlier most employee reports of unsafe or unhealthy conditions are made orally and generally by telephone. Others are submitted on forms that are available, and if an individual wishes anonymity, they are not required to sign the report. If they desire a report on actions taken, it is necessary to sign the report, but it is not necessary for their names to go beyond the reporting office.

Once a report is made and verified, corrective action is taken. (In some instances it is necessary or appropriate to make modifications or changes to alleviate concern or fear; although no safety or health problem exists.) Abatement procedures include: (1) determining if serious or imminent danger exists (If it does, the operation is shut down and red-tagged until corrections are made and it has been determined to be safe.), (2) establishing safety priorities for work and preparing purchase requests to correct unsafe conditions, (3) emphasizing line management's responsibility for the safety of personnel under their supervision, and (4) visits with employees who have accidents and their supervisors. The accident is discussed, and any violations of safety rules and ways to prevent a recurrence of the accident are stressed. The employee and supervisor are reminded of the possible penalties for failure to observe safety rules and regulations.

If an accident has not occurred, the unsafe or unhealthy condition is discussed, and procedures or modifications are determined to prevent accidents.

In the event an employee is not satisfied with the abatement actions taken to correct a recognized problem, the employee can report the condition or practice to the Installation Director or Headquarters for further action or review. Specific procedures are outlined in NHB 1700.1(V10) and include assurances that employees will not be subject to coercion, restraint, or reprisal for such reporting. The employee also has the option of reporting hazards directly to OSHA; however, we encourage employees to use in-house procedures first.

In addition to the above, NASA initiated an independent contract in 1980 to survey all NASA installations for compliance with occupational safety and health standards. The survey will be completed in late fiscal year 1981. To date, the number of identified deficiencies and cost of correction have been low and are a good indication of strong field installation safety and health programs.

8. RECORDKEEPING AND REPORTING PROCEDURES

Accidents, mission failures, incidents, injuries, and illnesses are reported to the appropriate office in accordance with Chapter 9, NHB 1700.1(V1), "Basic Safety Requirements," Program directives, and applicable DOL/OSHA requirements. Injuries and illnesses are monitored by the Medical Officer or his staff, and required records are maintained

in the medical files of the individuals. The records are the basis for reporting job-related injuries and illnesses to the Department of Labor and the NASA Safety Office. The files are available to individual employees as authorized by the Office of Workers' Compensation Program (OWCP) in accordance with the Privacy Act of 1975. Each injury and illness is investigated and the report includes recommendations of corrective actions. Mission failures are monitored by the Program Assurance Office and the Program office personnel.

Figure 4 shows the Number of NASA Employees and Number of Lost Time Injuries vs.Time. It should be noted that the scales have suppressed or offset zeros, and while the number of lost time injuries/illnesses rose dramatically from 1972 to 19,7, due principally to the changes in the injury compensation regulations, management focus on this phenomenon has finally turned this trend around, and during 1978, 1979, and 1980, we have seen decreases in the number and rate of lost time injuries/ illnesses. Figure 5 summarizes the Injury/Illness history for 1980. Figures 6-8 are different presentations of the frequency rates of lost time events. Figure 8 uses the Bureau of Labor Statistics numbers and does not include CY 1980, because the information is not available for other agencies. Figure 9 compares the NASA Injury Severity Rates for ten years. Figure 10 shows NASA's injury rates for the period 1972 to 1980. The no-lost-time and total injury rates have decreased dramatically during this period.

This indicates an active program to reduce accidents/injuries. The lost time cases have increased in number although not in severity. One third of the cases in 1979 (Latest year with detailed data available.) were three days or less and 26 percent were only one day. On the other hand, approximately 17 percent of the cases were more than two weeks (10 work days) but not more than the six weeks (30 work days or 45 calendar days) permitted for COP.

Figure 11 compares NASA Total Injury rates with Private Sector and the Federal Government. Again these do not include the 1980 data, because it is unavailable for other agencies. This indicates that the NASA safety and health program has made significant improvements, and this has been done without sacrificing accuracy of reporting (Correlation with OWCP compensation claims has remained good. Our program is considerably better than average, and although our lost time rate increased from the 1969 or 1972 base, it is still low compared to most others.

As demonstrated in Figure 6, for the third time in the past ten years, NASA's lost work day rate has decreased. This year our rate was 0.67, one large installation achieved a rate of 0.09, and another had a rate of 0.30. Two small installations had no injuries/illnesses.

Another phenomenon that has already been pointed out is that only 7% of NASA employees injured on the job in 1973 took off a day or more from work, while that rate is almost 50% in 1980. Nothing in our accident analysis indicates injuries are more serious now than they were in 1973,

FIGURE 4

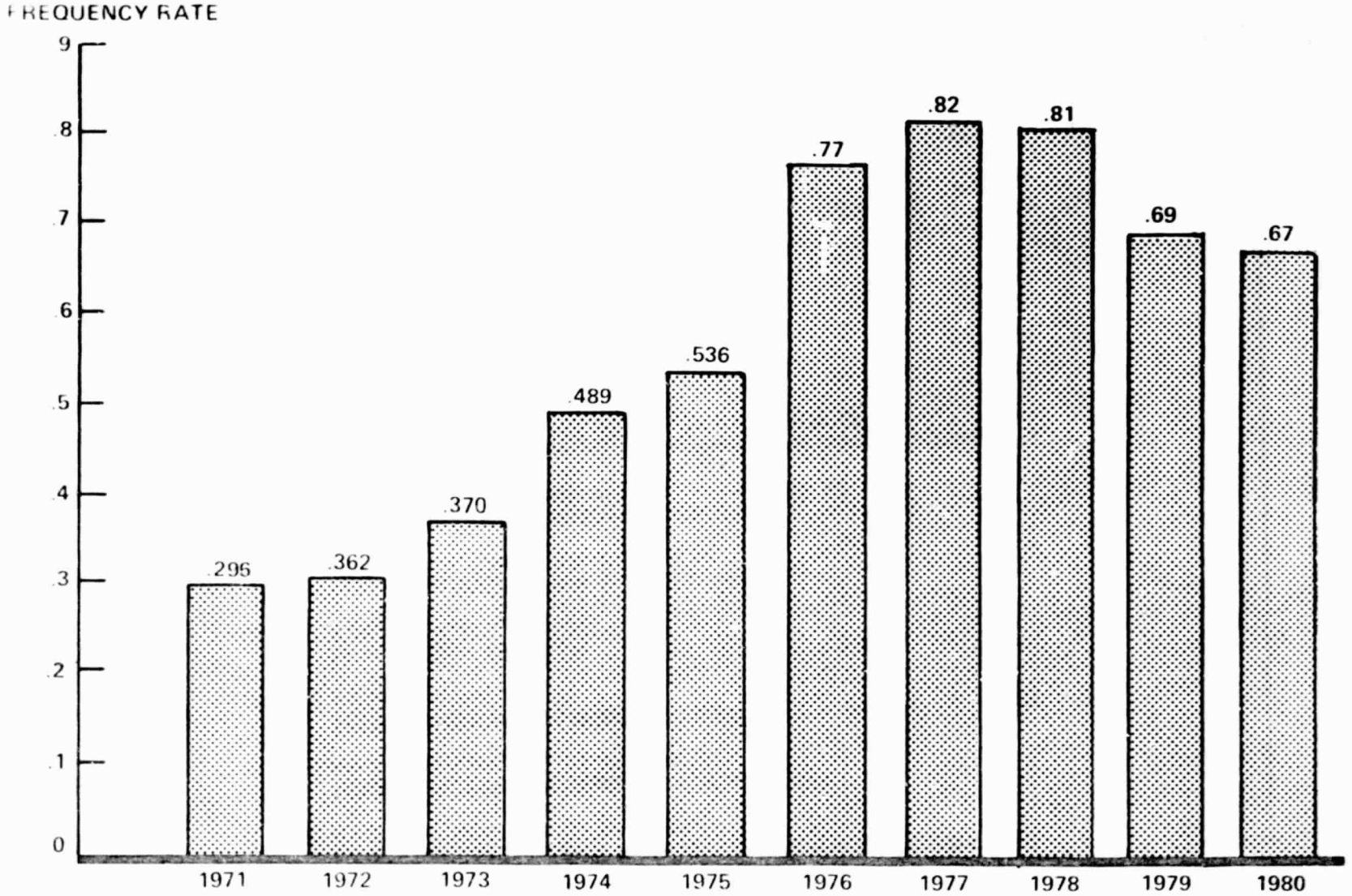
NASA INJURY AND ILLNESS DATA BY INSTALLATION - - ANNUAL 1980

	NO. OF EMPLOYEES	HRS WORKED IN (K)	TOTAL INJURY/ ILLNESS DATA NO. CASES	FREQ. 1979	RATE 1980	LOST TIME INJURY/ILLNESS DATA NO. CASES	NO. DAYS	FREQ. 1979	RATE 1980	SEVERITY RATE
ARC	1,748	3,459	35	2.37	2.02	26	175	1.40	1.50	10.12
DFRC	462	903	6	1.76	1.33	5	55	1.32	1.11	12.18
GSFC	3,446	6,590	40	1.06	1.21	25	269	.88	.76	8.16
HQ	1,655	3,002	42	1.39	2.80	9	43	.49	.60	2.86
JSC	3,772	7,355	13	.16	.35	11	88	.16	.30	2.39
KSC	2,293	4,550	18	.46	.79	16	304	.32	.70	13.36
LaRC	3,031	5,534	41	2.66	1.48	20	233	.99	.72	8.42
LeRC	2,957	5,365	104	3.97	3.88	32	236	1.21	1.19	8.80
MAF	24	42	0	4.08	0	0	0	0	0	0
MSFC	3,615	6,649	16	.66	.48	3	253	.42	.09	7.61
NSTL	111	232	0	0	0	0	0	0	0	0
WFC	425	802	14	5.39	3.49	2	21	.27	.50	5.23
TOTAL	23,539	44,483	329	1.53	1.48	149	1,677	.69	.67	7.54
LAST YEAR	23,737	44,222	339	1.53	---	153	2,081	.69	---	9.41

1. TOTAL INJURY/ILLNESS FREQUENCY RATE = NO. OF CASES PER 200,000 HOURS WORKED.
2. INJURY FREQUENCY RATE = NO. OF LOST WORKDAY CASES PER 200,000 HOURS WORKED.
3. INJURY SEVERITY RATE = NO. OF LOST WORKDAYS PER 200,000 HOURS WORKED.

Figure 5

NASA INJURY FREQUENCY RATE



FREQUENCY RATE IS THE NUMBER OF LOST TIME INJURIES PER 200,000 HOURS WORKED

NASA HQ NI80-1859 (1)
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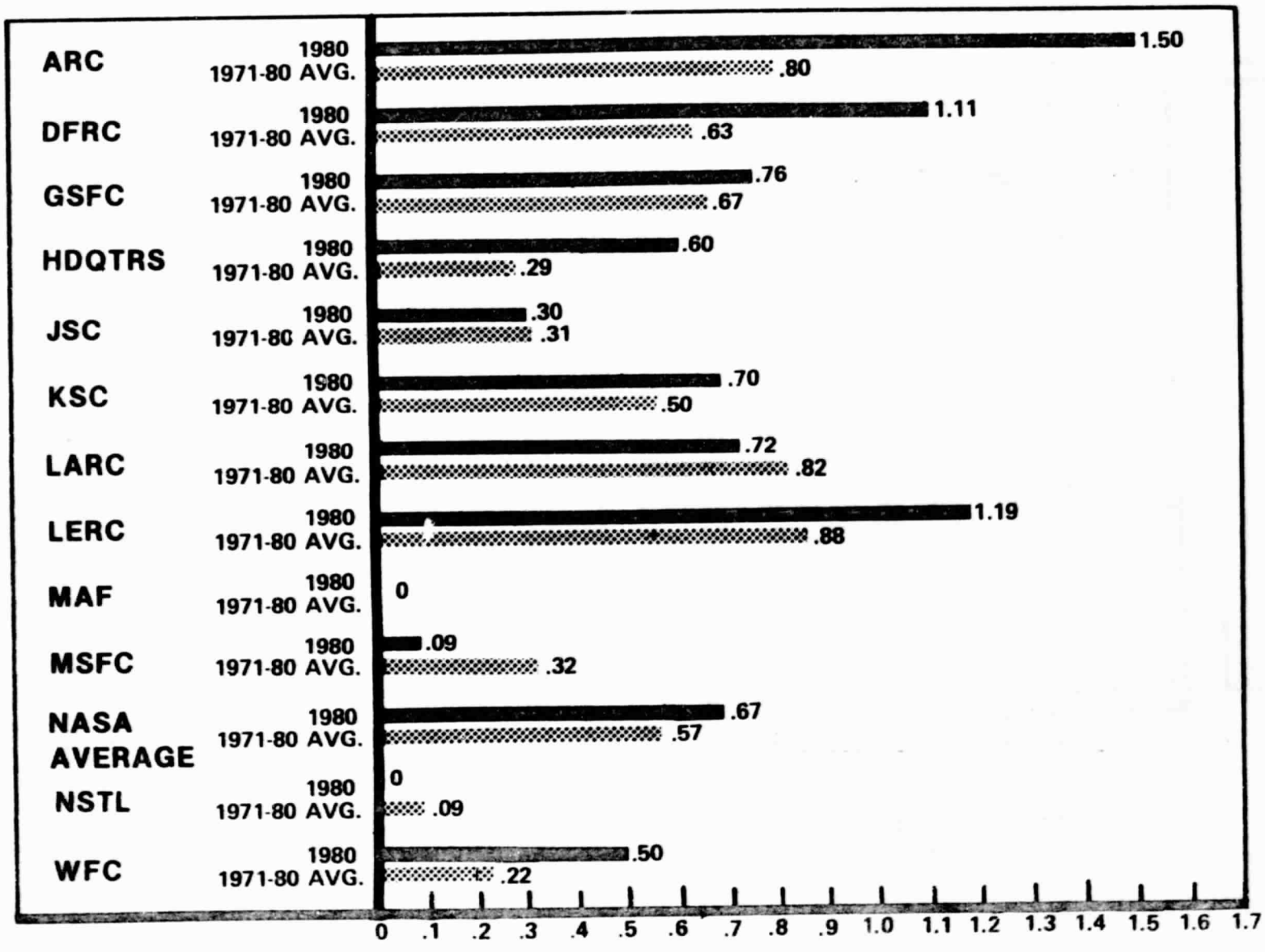
FIGURE 6

NASA INJURY FREQUENCY RATES
(LOST TIME)



FREQUENCY RATE IS THE NUMBER OF LOST TIME INJURIES PER 200,000 HOURS WORKED

NASA HQ NI80-1857 (1)
REV. 2-27-81

FIGURE 7

LOST-TIME INJURY RATES: PRIVATE SECTOR—FEDERAL AGENCIES—NASA—SELECTED INDUSTRY

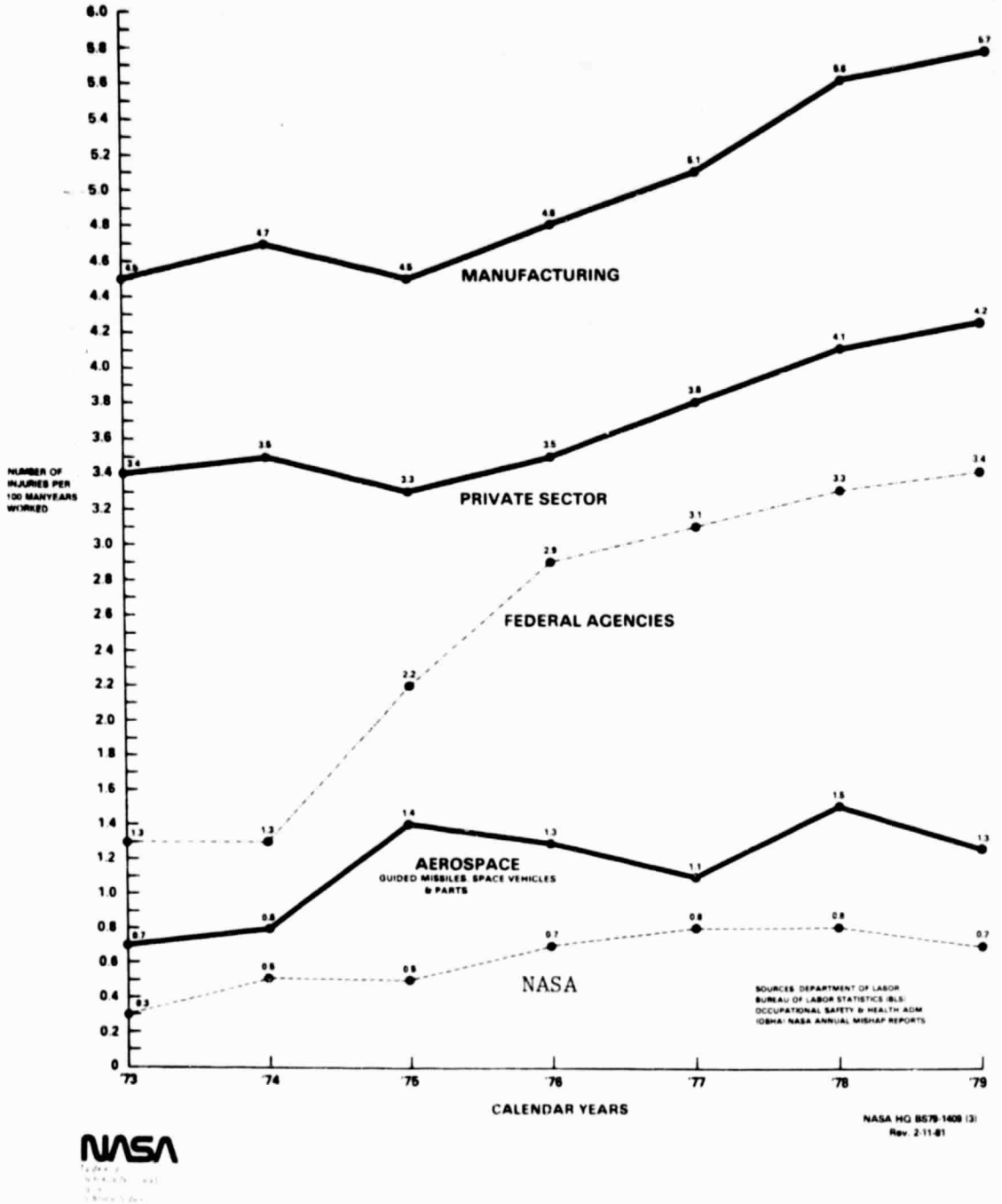
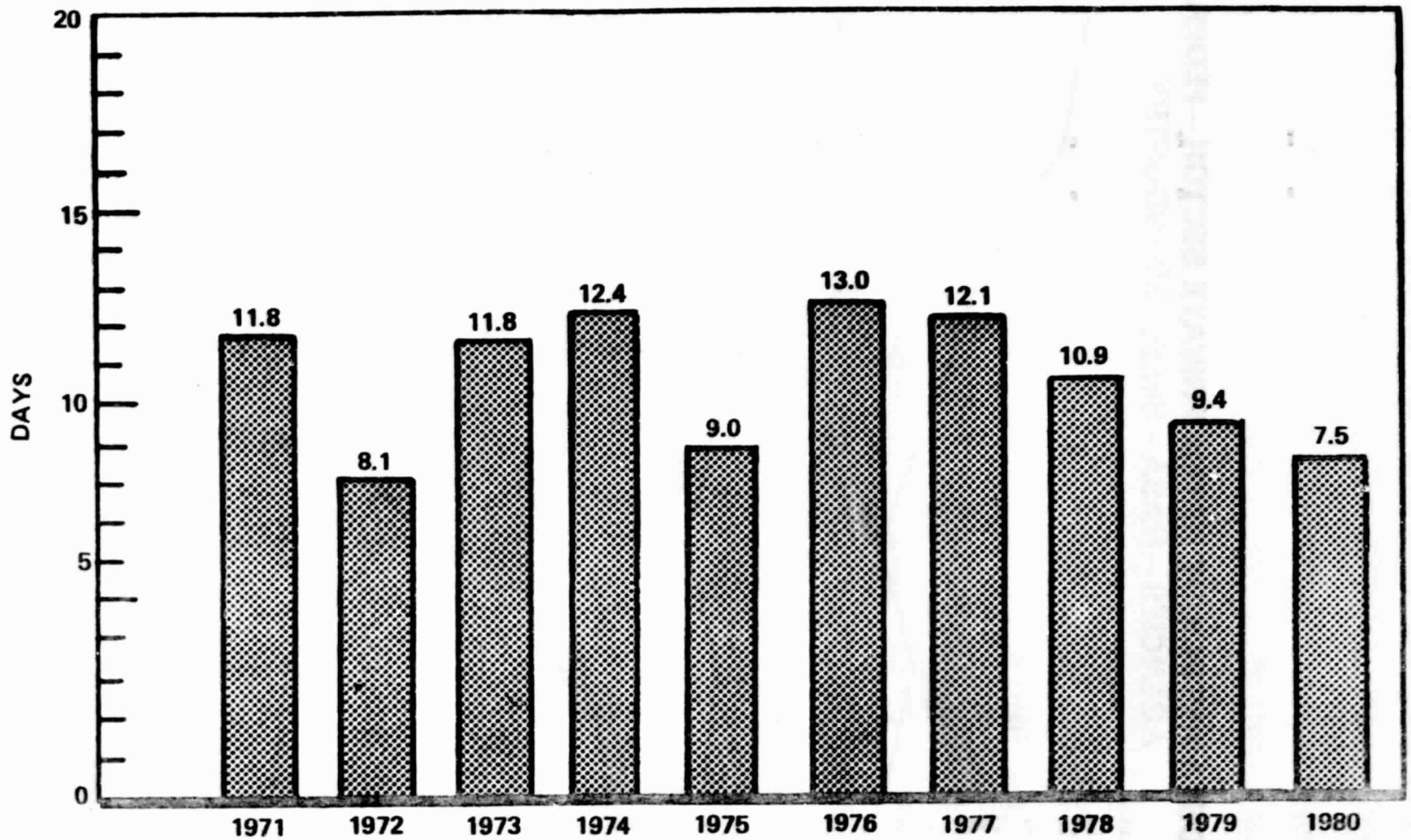


FIGURE 8

NASA INJURY SEVERITY RATE



SEVERITY RATE IS THE NUMBER OF DAYS LOST PER 200,000 HOURS WORKED.

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REV. 2-27-81

FIGURE 9

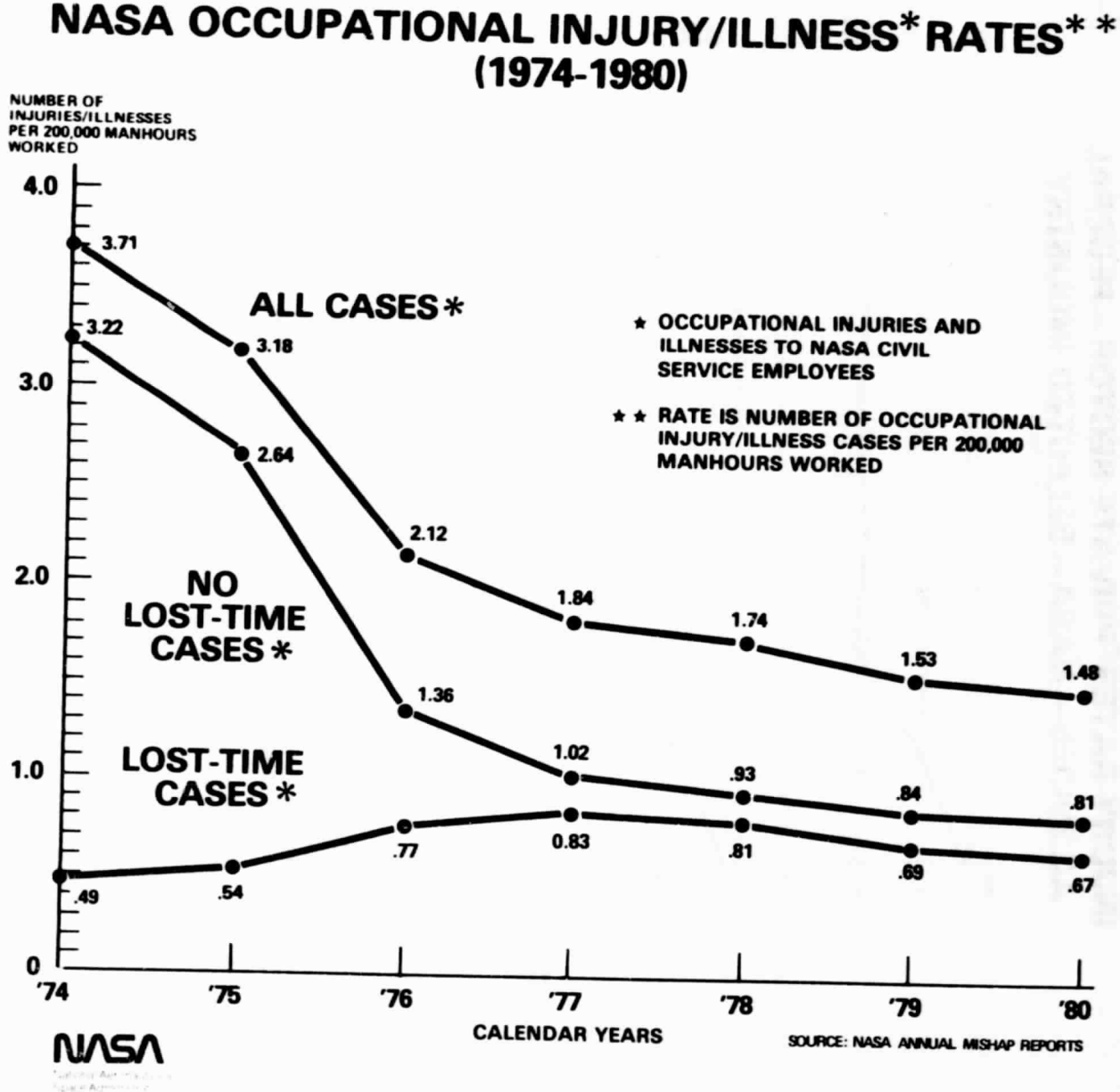
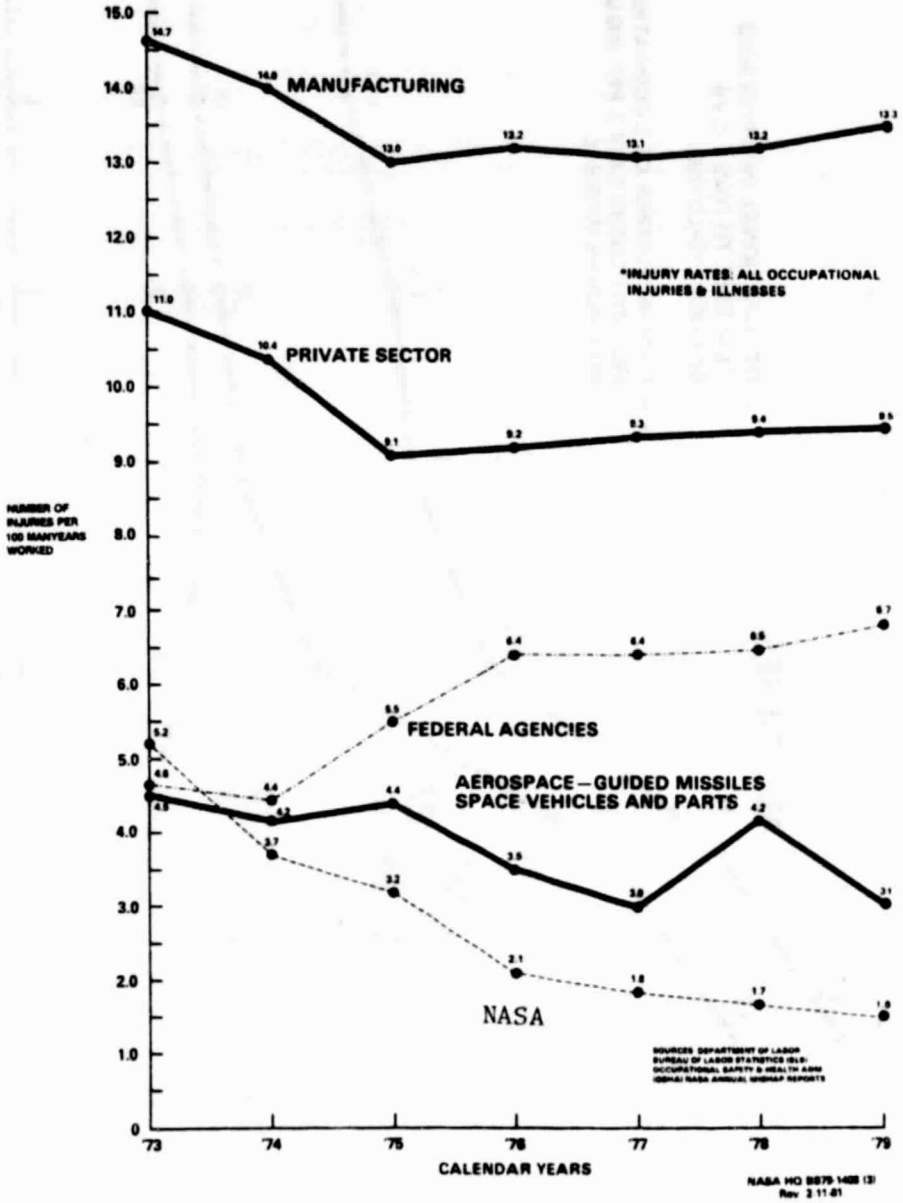

NASA OCCUPATIONAL INJURY/ILLNESS* RATES**
(1974-1980)
NUMBER OF INJURIES/ILLNESSES PER 200,000 MANHOURS WORKED
4.0
3.0
2.0
1.0
0
ALL CASES*
NO LOST-TIME CASES*
LOST-TIME CASES*
3.71
3.18
2.12
1.84
1.74
1.53
1.48
3.22
2.64
1.36
1.02
.93
.84
.81
.49
.54
.77
0.83
.81
.69
.67
* OCCUPATIONAL INJURIES AND ILLNESSES TO NASA CIVIL SERVICE EMPLOYEES
** RATE IS NUMBER OF OCCUPATIONAL INJURY/ILLNESS CASES PER 200,000 MANHOURS WORKED
'74
'75
'76
'77
'78
'79
'80
CALENDAR YEARS
NASA
SOURCE: NASA ANNUAL MISHAP REPORTS
NASA HQ DS79-1407 (3)
REV. 2-17-81

FIGURE 10

INJURY RATES:* PRIVATE SECTOR—FEDERAL AGENCIES—NASA—SELECTED INDUSTRY



NASA
National Aeronautics and Space Administration

FIGURE 11

and our accident severity rate has decreased from 11.8 in 1973 to 7.5 in 1980. This phenomenon is attributed to a high percentage of short duration absences encouraged by the liberalization of the Workers Compensation Program. Figure 12 shows the NASA Employee-Years lost due to On-the-Job injuries.

When an individual is injured or becomes ill, emergency action consistent with the nature and extent of injury or illness is taken. After the immediate needs of the injured are met and any necessary action is taken to prevent the injury of others or damage to equipment, a report is made, and an investigation is conducted to determine the causes of the injury or illness. If improper procedures or use of equipment is found to contribute, the employees are instructed in proper applications. If the employees have knowingly contributed to the incidents, they are counseled, and in some instances they are reprimanded. Repeated failures can lead to disciplinary action, including job terminations. If procedures are incorrect or equipment is improperly guarded or maintained, immediate action is taken to stop operations and correct the problems. Safety personnel as well as operational personnel can originate stop action in these instances. In case of a reportable injury and injuries requiring outside medical attention, necessary forms are forwarded to the U.S. Department of Labor, Office of Workers' Compensation Programs. These injuries are reported to NASA Headquarters on OSHA Form 102F.

9. PROMOTIONAL AND INTERAGENCY ACTIVITIES

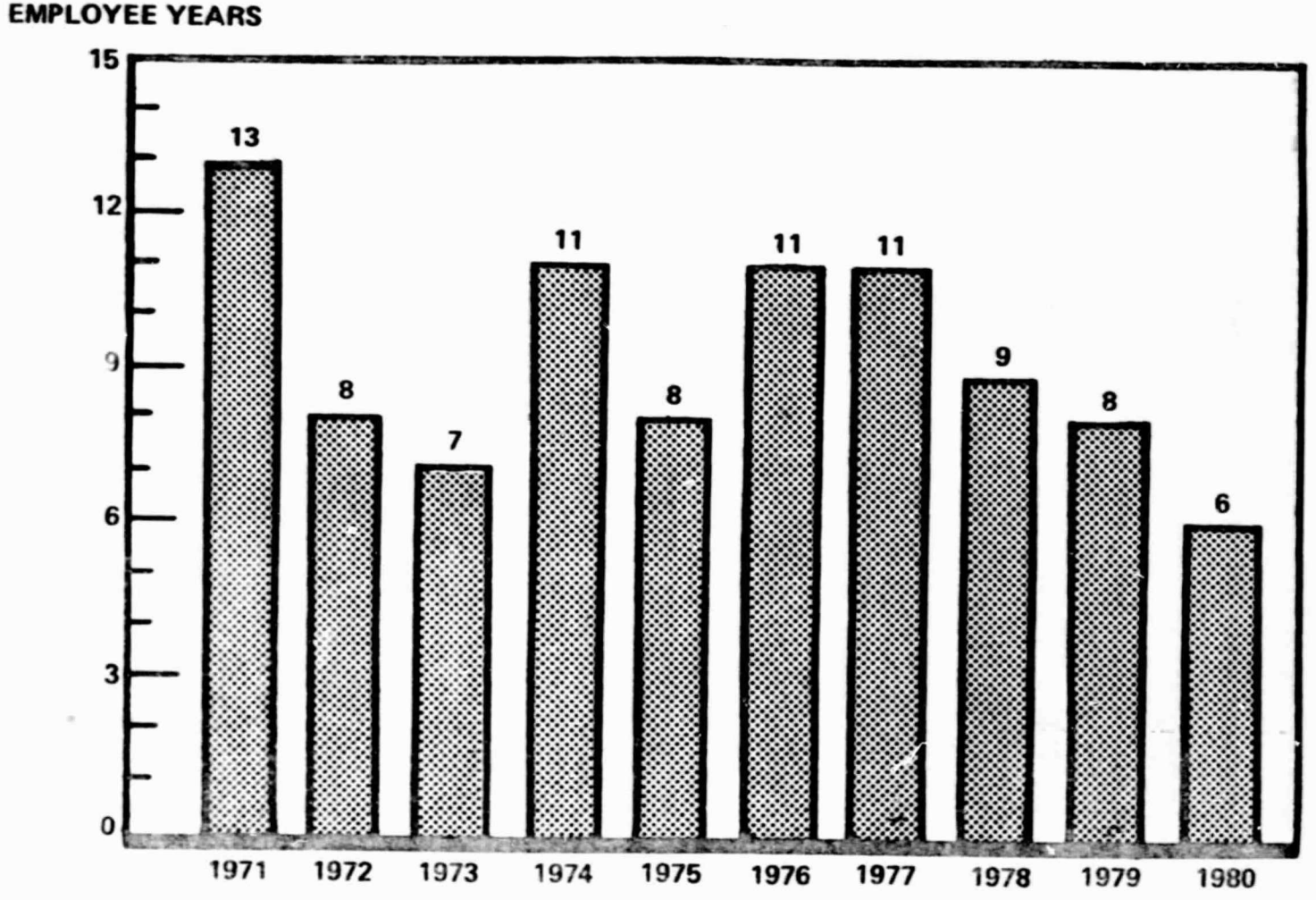
The promotional techniques used at the installations are discussed in their individual reports and will not be covered in this part. NASA Headquarters provides supporting information, the Training Catalog, instructional and interest generating materials, and assistance whenever it is requested. Training activities that are considered necessary or desirable for all installations, such as management or supervisor orientation and education, are likewise conducted by Headquarters. Medical education programs are provided, health bulletins issued, cardio-pulmonary resuscitation (CPR) classes are sponsored, first aid classes are taught, physical exams are provided and encouraged, plus many other related activities are available.

Participation in the Field Federal Safety and Health Councils is encouraged at Headquarters and at the Installations. Also, periodic NASA Safety and Health Directors Conferences are held and include speakers from other agencies and private industry. These conferences provide a good exchange of new information concerning safety and health.

10. INTRA-AGENCY EVALUATION PROCEDURES

Each installation is required to evaluate its Safety and Health Program. A formal evaluation and survey is required every two years by in-house personnel. During the alternate years a Headquarters directed team will conduct a survey. These teams are made up of specialists capable of recognizing hazards. The areas of occupational safety, health,

NASA EMPLOYEE-YEARS LOST DUE TO ON-THE-JOB INJURIES *



* 260 WORK DAYS - 1 EMPLOYEE-YEAR

FIGURE 12

NASA HQ N180-1861 (1)
REV. 2-27-81

reliability, quality assurance, aviation, systems safety, and others, as needed for special circumstances will be evaluated, and specialists with these expertise will be used.

The Headquarters sponsored surveys spot check the facilities and evaluate the documentation and self-survey information. The results have been encouraging, and the quality of surveys being accomplished by the installation personnel is improving. However, when weaknesses are found, the survey teams discuss the problems in detail, and the installation management is required to report actions taken to eliminate the problems. Where major deficiences exist and are not corrected, the action is elevated to a level where attention is obtained.

ACHIEVEMENT OF PLANNED GOALS AND OBJECTIVES FOR CY 1980

The basic objectives of the NASA safety and health program are to:

1. Take all necessary steps to avoid loss of life, personnel injury or illness, property loss or damage, or environmental harm to the extent practical.

2. Comply with the applicable provisions of the Occupational Safety and Health Act of 1970, Executive Order 12196, 29 CFR 1960 and published Occupational Safety and Health Administration (OSHA) and NASA safety and health standards. Requirements of other applicable Federal regulatory agencies shall also be complied with. In the event of conflicting standards or regulatory issuances, the more stringent requirementes shall be met.

3. Instill an awareness of the need for safety and health conservation in all NASA and NASA contractor employees.

4. Implement a risk management system to achieve the necessary level of safety and health commensurate with mission objectives and overall costs.

5. Assure that an organized and systematic approach is used to identify and control safety and environmental health hazards and problems.

6. Periodically review and evaluate plans, systems, and activities relating to safety and environmental health to ensure that objectives will be achieved within established constraints of available technology, funding, and schedule.

As described throughout this report and as indicated by our low accident rates, NASA has had good success in meeting these objectives. There is always room for improvement as indicated in the next section, but compared to other Federal agencies and private industry, NASA has an excellent program.

CY 1981 AND BEYOND

NASA does not anticipate significant changes in basic operational policy and philosophy during the next calendar year, but improvements will be made upon the management aspects of the program. Safety and health policy documents will undergo major revision, documentation requirements will increase to comply with the new E.O. 12196 and 29 CFR 1960, major efforts are underway in the areas of budget and training, a safety coordinating committee has been established at the Headquarters level, and it is likely that NASA unique safety standards will be initiated. Models will be developed to assist in the establishment of realistic accident prevention goals and development of countermeasures for accident causes. Increased emphasis will be placed on recertification of pressure vessels/systems to assure prevention of catastrophic type accidents.

Safety and health management by objectives will play an increasing role in not only accident prevention targets but also the key specific objectives of installation directors and other key management officials.

ATTACHMENTS

ATTACHMENT 1

FEDERAL EMPLOYEE REPORTS OF UNSAFE OR UNHEALTHFUL WORKING CONDITIONS AT THE FIELD, REGIONAL, AND HEADQUARTERS LEVELS

Provide the following information on Federal Employee Reports:

I. Field (Local) Level Activity

Number of Employee Reports Received	285
Number of Employee Reports Investigated	285
Number of Employee Reports Abated	280
Cost of Abating Reported Conditions	$ 1,093,461

II. Regional (Mid) Level Activity

Number of Employee Reports Initially Received at the Regional Level	
Number of Employee Reports Forwarded From the Field Level	
Number of Employee Reports Investigated	
Number of Reported Conditions Abated	
Cost of Abating Reported Conditions	$

III. Headquarters - Designated Safety & Health Official (DSHO) Level

Number of Employee Reports Initially Received at Headquarters Level	
Number of Employee Reports Forwarded to Regional or Field Level for Investigation	
Number of Employee Reports Investigated by DSHO	
Number of Reported Conditions Abated	
Cost of Abating Reported Conditions	$

ATTACHMENT 2

CY 1980 EXPENDITURES FOR OCCUPATIONAL SAFETY AND HEALTH

Provide the figures for CY 1980 in the following table:

	$ Requested	$ Allocated	$ Actually Expended
Professional Staff[1]			6,248,397
OSH Training for:			
Professional Staff			22,970
Management			15,973
Supervisors			8,200
Employees			33,086
Abatement of Hazards			2,228,100
Promotion of OSH Program			43,225
Administration[2]			201,559
Personal Protective Equipment			444,588
Other[3]			5,280,079
Health Clinic			
Fire Protection			2,713,873
TOTAL			17,240,050

NOTES:

1. Include civilian employees in series GS-803, 018, 019, 690, 804, and 081.

2&3. Define what is included as Administration and Other.

ATTACHMENT 3

ADMINISTRATION OF SAFETY AND HEALTH PROGRAM

AGENCY

NAME NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ADDRESS Washington, DC 20546

AGENCY HEAD

NAME Dr. Alan M. Lovelace

TITLE Administrator (Act)

ADDRESS NASA Headquarters

Washington, DC 20546

AGENCY DESIGNATED SAFETY AND HEALTH OFFICIAL

NAME Mr. E.C. Kilgore

TITLE Associate Administrator for Management Operations

ADDRESS NASA Headquarters

Washington, DC 20546

PHONE NO. (202) 755-3708

AGENCY SAFETY AND HEALTH (COORDINATOR, DIRECTOR, CHIEF, MANAGER, ETC.)

NAME J. Larry Crawford

TITLE Chief, NASA Safety Office

GRADE LEVEL SES **JOB SERIES** 803

ADDRESS NASA Headquarters

Washington, DC 20546

PHONE NO. (202) 755-2751

ATTACHMENT 4

*FULL-TIME OCCUPATIONAL SAFETY & HEALTH STAFFING
AT HEADQUARTERS & FIELD UNITS

GS SERIES	GS GRADES													
	5-8		9-11		12		13		14		15		16	
	HQ	FU	HQ	FU	HQ	FU	HQ	FU	HQ	FU	HQ	FU	HQ	FU
SAFETY ENGINEER (803)				5		11		12		11	1	3	1	
SAFETY MANAGER/SAFETY SPECIALIST (018)		3		26		17	1	8	2	1	2	1		
SAFETY TECHNICIAN (019)		2		4										
INDUSTRIAL HYGIENIST (690)		7		7		6		3	1	3				
FIRE PROTECTION ENGINEER (804)				4		1		3						
FIRE PROTECTION SPECIALIST/ MARSHALL (081)		79		38										
HEALTH PHYSICIST (1306)		1		3		1		7		2		1		
OCCUPATIONAL MEDICINE PHYSICIAN (602)								1		3		12	1	7
OCCUPATIONAL HEALTH NURSE (610)	2	8	1	44		2								
PHYSICAL SCIENCE TECHNICIAN (1311)		4		8					1	1				
ENVIRONMENTAL HEALTH TECHNICIAN (699)				2		1		2						
HEALTH TECHNICIAN (645)	2	6		13	1	6								
OTHER FULL-TIME (SPECIFY) Sec.	2	47		2										
Medical Program Assistant		1												
Biomedical Engrng. Technician				2		1		1		1				
General Engineer	1			1				1		1				
Administration		2				1								
Student Trainee		1												
Physical Fitness Supervisor	1	1		1										
Aviation Safety								3		1	1			
TOTAL FULL-TIME	8	162	1	159	1	47	1	41	4	24	4	17	2	7

HQ=HEADQUARTERS FU=FIELD UNITS

* The numbers on this summary table for the agency include full-time and collateral duty.

NUMBER OF EMPLOYEES:

Headquarters 1,655

Field Units 21,884

Total 23,539

VACANCIES IN SAFETY & HEALTH STAFFING:

Headquarters

Field Units (2) Fire Protection Engineers; (3) Safety Specialists; (2) Safety Engineers

ORIGINAL PAGE IS
OF POOR QUALITY

ATTACHMENT 5

SAFETY & HEALTH STAFFING OF FIELD UNITS

DIRECTIONS: List the agency field units and provide the requested information for each unit in the following table. Define organizationally the term "field unit" relative to the agency mission, size, and organization. The table should include both full-time and collateral-duty personnel. For field units staffed with collateral-duty personnel, the number of personnel and the total work (in man-years) spent on safety and health should be entered for each grade level. For example, a field unit with three GS-7 collateral-duty safety and health personnel, each devoting 40% of his work time to safety and health activities, should expend a total of 1.2 man-years for that grade on safety and health activities. This would be entered in the table as 3(1.2) in the CD column for the GS 5-8 grade level.

DEFINITION OF FIELD UNIT: NASA CENTERS/INSTALLATIONS

FIELD UNITS (NAMES, ADDRESSES AND AVERAGE EMPLOYMENT)	GS GRADES													
	5-8		9-11		12		13		14		15		16	
	FT	CD	FT	CD	FT	CD	FT	CD	FT	CD	FT	CD	FT	CD
AMES RESEARCH CENTER	15	1	4	1.1		1	4	1	2					
DRYDEN FLIGHT CENTER	1		1				2				2			
GODDARD SPACE FLIGHT CENTER	9		8		5		5		2		1		1	
HEADQUARTERS	8		1		1		1		4	.2	4		2	
JOHNSON SPACE FLIGHT CENTER	33		10		10		7		2	1	4		4	
KENNEDY SPACE FLIGHT CENTER	39		57		21		9		5		3		1	
LANGLEY RESEARCH CENTER	20		36	1.8	4	.9	3	.8	2	.9		1	.5	
LEWIS RESEARCH CENTER	31	1.3	11		2	1.7	2		3	.4	2			
MARSHAL SPACE FLIGHT CENTER	17		8	.5	2		4		2		3		1	
NATIONAL SPACE TECH. LABORATORY	1	.5	3	.5	1		2				1			
WALLOPS FLIGHT CENTER	11		5				2	.5				.3		

FT = Full-time CD = Collateral-duty

ATTACHMENT 6

FULL-TIME OSH PROFESSIONALS

Directions: Complete this form for each full-time professional at both the headquarters and field levels indicated on Attachment 4. The professionals should be in the job series GS 803, 018, 019, 690, 804, and 081. Include agency and sub-agency identification in the work address.

NAME SEE INDIVIDUAL UNIT INPUTS FOR THEIR PROFESSIONALS

TITLE _____

JOB SERIES _____ GRADE LEVEL _____

WORK ADDRESS _____

_____

_____

TELEPHONE _____ (COMMERCIAL)

_____ (FTS OR OTHER)

NAME _____

TITLE _____

JOB SERIES _____ GRADE LEVEL _____

WORK ADDRESS _____

_____

_____

TELEPHONE _____ (COMMERCIAL)

_____ (FTS OR OTHER)

TITLE OF COURSE	LENGTH OF COURSE (Hours)	NUMBER OF EMPLOYEES TRAINED						
		OSH FT PROFESSIONALS	OSH CD PERSONNEL	MANAGEMENT	SUPERVISORS	EMPLOYEE REPS.	EMPLOYEES	OSH COMMITTEE MEMBERS
		SEE INDIVIDUAL INSTALLATION REPORTS FOR DETAILS						
TOTAL EMPLOYEES TRAINED		3779	3433	1506	5436	1097	120,246	210

FT = Full-time
CD = Collateral-duty

ATTACHMENT 8

OCCUPATIONAL INJURIES & ILLNESSES FOR CY 1980, 1979, and 1978

CALENDAR YEAR	NUMBER OF FATALITIES	NUMBER OF				TOTAL EMPLOY-MENT	TOTAL EMPLOYEE HOURS WORKED
		INJURIES		ILLNESSES			
		NON - LOST WORKDAY CASES	LOST WORKDAY CASES	NON - LOST WORKDAY CASES	LOST WORKDAY CASES		
1980	0	180	149	0	1	23,539	44,483K
1979	1	157	151	30	1	23,737	44,222K
1978	0	206	180	6	4	24,278	45,325K

NOTE: This data should agree with the data provided to OSHA annually on OSHA Forms 102F and 102FF in the Federal Accident Reporting System.